

MULTIVARIATE ASSESSMENT OF CONFLICT IN DISTRESSED
AND NONDISTRESSED MOTHER-ADOLESCENT DYADS

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A battery of measures was used to assess conflict between mothers and young adolescents (females and males, 11 to 15 years of age). Two groups of families, one composed of a distressed clinical sample ($N = 38$), the other a nondistressed normative sample ($N = 40$), participated. The assessment battery included retrospective judgments, frequency estimates, self-monitored home recording, and tape-recorded discussion of a home problem. Content of assessment measures tapped aspects of parental control, decision-making, self-reported interaction behavior, arguments, interaction behavior rated by independent "blind" observers, frequency and anger-intensity of specific problematic issues, and perceptions of positive and negative behaviors of the other family member. Based on univariate analyses, 21 of the 26 defined variables discriminated significantly in the predicted direction. Maternal and adolescent reports of behavior and independent ratings of tape-recorded interaction emerged as strong and consistent discriminators. Stepwise multivariate discriminant analysis provided successful classification of 100% of the families based on the inclusion of nine variables. In a cross-validation sample, 84% of the families were correctly classified. Implications for systematic outcome research as well as clinical application are discussed.

DESCRIPTORS: multivariate methodology, conflict, assessment, mother-adolescent dyads

Until relatively recently, behaviorally based interventions with children have relied almost exclusively on parental management of child behavior, which was accomplished by teaching parents to alter systematically reinforcement contingencies (Wahler, 1976). The efficacy of behavior therapy with preadolescent children has been well documented (Berkowitz and Graziano, 1972; Johnson and Katz, 1973; O'Dell, 1974). Target behaviors of this age group are generally readily specifiable (*e.g.*, compliance, tantrums, fighting, appropriate play), and the active involvement of the child, especially preschool children, in the intervention process is not essential to success (*e.g.*, Wiltz and Patterson, 1974).

The success of contingency management approaches with adolescents has been less promising. For example, behavior contracting has produced equivocal (Stuart and Tripodi, 1973) or clearly nonsignificant results (Weathers and Liberman, 1975). Perhaps as a result of this, investigators have expanded their interventions

to address not only problem behaviors *per se*, but also the communication patterns that elicit and maintain those problems (Alexander and Parsons, 1973; Kifer, Lewis, Green, and Phillips, 1974; Robin, Kent, O'Leary, Foster, and Prinz, 1977). Thus, for the adolescent age group, verbal and affective components of family communication (*i.e.*, problem solving, personal attack, supportive statements, contractual agreements, assertion, nonverbal behavior) have replaced or supplemented more readily specifiable target behaviors employed with the contingency management approach. In contrast to many contingency management applications, in these

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forms of intervention, adolescents as well as parents have been active participants.

The focus on more complex parent-adolescent problem behaviors has, as yet, not yielded an assessment methodology developed as extensively as parent training assessment with younger children. Intervention outcome research with parents and adolescents has, therefore, produced data all too often reflecting simply a transfer of methods used with younger children. Assessment measures to date have been characterized by inadequate validation and/or limited scope. For example, while communication is a multifaceted aspect of any relationship, in place of comprehensive well validated objective and self-report measures, investigators have often employed indices of change based on the predicted outcome of their training strategies, with no indication of social validation of the behaviors assessed (*e.g.*, Kifer *et al.*, 1974). Others have used only face validity as a basis for measures (Robin *et al.*, 1977). Furthermore, behavior samples of discussions (such as audiotapes) are often used as sole indicators of treatment effects, without measuring the other interactional changes that presumably occur concurrently at home as a function of treatment or training (*e.g.*, frequency of conflicts and of conflict-related behavior).

Validity and breadth are, therefore, essential characteristics of the content of any new assessment instruments tapping parent-adolescent interaction. Olson (1977) also recommends that comprehensive assessment of a relationship samples four different perspectives. An "insider-subjective" view includes subjective reports about the relationship. An "insider-objective" viewpoint refers to more objective observations (*e.g.*, self-monitored data) made by an individual involved in the relationship. "Outsider-objective" and "outsider-subjective" measures are made by individuals outside the relationship. An example of the former is data from direct observation; a clinician's subjective judgment is an example of the latter.

The goal of the present study was to develop

and validate a comprehensive measurement battery for use in assessing dimensions of parent-adolescent conflict. In addition to sampling different types of behavior (*e.g.*, frequency and intensity of arguments, decision-making, positive and negative communications), the assessment instruments incorporated three of Olson's (1977) perspectives. Mothers and adolescents reported their own past patterns of behavior and those of others (insider-subjective). They also self-monitored aspects of communication at home for one week (insider-objective). In addition, trained observers rated audiotapes of dyadic discussions for various types of communication behavior (outsider-objective). Each instrument was evaluated in terms of its ability to discriminate distressed from nondistressed dyads.

In addition, the cumulative discrimination of the entire battery was evaluated via stepwise discriminant analysis. This provided a method for obtaining one score to represent mother-adolescent distress. If a single score could yield nonoverlapping distributions between distressed and nondistressed dyads, it would present several advantages for outcome research with families. Combining individual scores produces a composite score that is more stable than any single variable, yet represents a diverse collection of measurement domains. Use of a composite score in outcome studies as a single index of change would enable an investigator to avoid the problems inherent in the analysis of multiple dependent measures, such as probability pyramiding and lowered reliability. Furthermore, investigators could also compare posttreatment composites with those yielded by a nondistressed population, thus providing a stringent method for evaluating the extent of treatment effects.

METHOD

Mother-Adolescent Dyads

Two groups of subjects participated. The first group, referred to as the distressed dyads ($N = 38$), was composed of mothers and adolescents seeking the assistance of an assessment and re-

ferral service. In all cases, the mother made the initial contact. The second group, referred to as the nondistressed dyads ($N = 40$), consisted of mothers and adolescents who felt they were getting along with each other satisfactorily and were willing to participate in a research project. This group received \$8 per family for their participation; the distressed dyads received assessment and referral services at no charge. Distressed and nondistressed dyads were solicited through separate newspaper announcements.

Adolescents in both groups ranged in age from 11 to 15. The two groups did not differ significantly with respect to age of adolescent. The distressed dyad group included 11 boys and 27 girls,¹ and the nondistressed dyad group included 20 boys and 20 girls. Those in the distressed group presented problems that would be encountered in an outpatient clinic: incidents of minor delinquency, running away, drug abuse, academic and social behavior problems at school, and heated and/or frequent family quarrels.

The groups were comparable (and not significantly different) with respect to socioeconomic status, number of children in the family, and proportion of single-parent families. Based on Duncan's (1961) 10-point socioeconomic status scale for head of household's occupation, the distressed group had status ratings ranging from 1.0 to 8.5 with a mean of 5.2 and a median of 5.3; ratings for the nondistressed group ranged from .6 to 9.3 with a mean of 5.5 and a median of 5.3. Both groups had median family sizes of three children. Finally, 32% of the distressed dyads were single-parent families, compared to 25% of the nondistressed dyads.

Measures

Conflict behavior questionnaire. The Conflict Behavior Questionnaire (CBQ) was designed to obtain evaluations of parent and adolescent be-

havior directly from mother and adolescent. Presumably, family conflict is marked by disapproval of and complaints about the behavior of the other member or members. The CBQ taps two potential sources of complaints: (1) dissatisfaction with the other person's behavior, and (2) evaluations of the interactions between the two members.

The statements used as items in the CBQ were generated by eighth-grade students, practicing clinical psychologists, and research assistants. A large item pool emerged and was pretested. A group of 91 18- to 19-year-old college students retrospectively rated the quality of their relationships with their own mothers and then responded to the pilot items. Items that correlated highest with the relationship rating were retained.

All items were written in statement form, answerable in a yes/no format. Items described both positive and negative behaviors. Three types of items were included: (1) items that characterized the adolescent's interaction style were included in the mother's version of the questionnaire—*e.g.*, "My child often seems angry at me."; (2) items that described the mother's interaction behavior were included in the adolescent's version—*e.g.*, "When I try to tell her something she doesn't let me finish."; and (3) items pertaining to the dyadic interaction were included in both versions—*e.g.*, "We argue at the dinner table almost every time we eat." The final form was composed of 73 items in the adolescent version and 75 in the maternal version. The two versions had 22 items in common.

The two versions of the CBQ yielded four scores: adolescent's appraisal of mother, maternal appraisal of adolescent, adolescent's appraisal of dyad, and maternal appraisal of dyad. Each score was computed by counting the number of items endorsed in a negative direction. Internal consistency (coefficient alpha) for the four scores was .95, .88, .94, and .90, respectively ($N = 90$).

Issues checklist. The Issues Checklist (IC) is a modification of an instrument used by Robin

¹The abundance of girls in the distressed group was due, in part, to an error in the newspaper announcement which was corrected halfway through the study.

et al. (1977). It was designed to assess frequency and intensity of discussions associated with specific issues that might arise at home. In contrast to the CBQ, which focused on general descriptions of conflict-related behaviors, the IC asked parent and adolescent to recall disagreements about specific issues. The IC was composed of 44 topics that are potential sources of disagreement in households with young adolescents, such as bedtime, getting low grades in school, how to spend free time, and talking back to parents. For each topic, the respondent indicated whether or not some aspect of the topic had been discussed in the past month. For each topic that was endorsed, the respondent rated the intensity of the discussions or arguments (on a 1 to 5 scale, from calm to angry), and estimated how often the topic had been broached during the month.

The IC yielded 6 scores. The maternal quantity of issues score was simply the number of topics or issues that the mother indicated had occurred at least once during the month. The maternal intensity of issues score was represented by an average of the mother's intensity-of-discussion ratings for the endorsed topics. The maternal intensity-by-frequency of issues score was computed by summing the cross products of each maternal intensity rating and its frequency estimate, then dividing by the total number of endorsed topics. This score was included in order to correct adequately for the possibility that high-intensity discussions might be associated with either high or low frequencies relative to low-intensity discussions. The adolescent quantity of issues, adolescent intensity of issues, and adolescent intensity-by-frequency scores were computed in the same fashion as the maternal scores.

Paternal control measure. The Paternal Control measure (PC) was composed of three short vignettes depicting situations that can arise in families with adolescents (coming home late without notifying parents, hiding cigarettes in bedroom, and going somewhere with an "undesirable" friend). Parent and adolescent were

asked to respond as though the vignettes described circumstances in their lives. For each vignette, the parent was asked to select one of five possible responses to the question "What would you probably do?" that came closest to the action the parent would take to either discipline or control the adolescent. The adolescent was also asked to select one of the five possible alternatives, but in response to two questions: (1) "What would your mother probably do?" and (2) "What would you like your mother to do?" Each of the five alternatives for each vignette has an associated ranking with respect to parental control and punishment. The report of control score was computed by averaging the rankings of the mother's responses for the three vignettes. Dissatisfaction with parental control was defined as the difference between the ranking of the response that the adolescent attributed to the mother and the ranking of the response desired by the adolescent, averaged over the three vignettes.

Decision-making questionnaire. The Decision-making Questionnaire (DMQ), adapted from an instrument employed by Stuart and Stuart (1975), focused on the relative balance of power between adolescent and parents. For each of 11 topics pertaining to or affecting the adolescent, the mother and adolescent each indicated *who* (on a 5-point scale varying from 1 = mostly parents to 5 = mostly adolescent) typically made the decisions on the topic. The average of the mother's responses constituted the appraisal of decision-making score. The adolescent also indicated *who should* make the decisions on each topic in the DMQ. The dissatisfaction with decision-making score was computed as the average difference between the adolescent's ratings of *who does versus who should* make the decisions.

Daily home reports. The Daily Home Report (DHR) was a short questionnaire completed separately by mother and adolescent at home. It was included in order to obtain recordings of conflict-related behavior in the home setting. In contrast to the CBQ, which reviewed behav-

ior over a longer period, the DHR provided day-by-day ratings of behavior.

Each report was composed of a 10-item list of positive and negative yes/no descriptions of parent and adolescent behavior, and an estimate of the ratio of arguments to pleasant or neutral interactions for that day. Mother and adolescent each filled out seven DHR forms over a span of one week. They were each given seven stamped addressed envelopes to return independently the reports by mail each day.

Tape-recorded discussion. Mother and adolescent were instructed to converse for 10 minutes about something that the adolescent wanted to see changed and to determine some course of action that they could implement at home. The topics were selected by the adolescents before the discussions began and included requests for different hours (bedtime, staying out), for changes in relations with siblings, for more privileges, for less chores or responsibilities, or for greater latitude in going places with friends. The discussion was tape-recorded with the participants' knowledge and with the experimenter out of the room.

Each tape was independently rated by four observers who remained "blind" to the purpose of the study, the existence of family groups, the method of family recruitment, and the identifying information about individual families. Training consisted of three sessions with the four observers together. The rating categories were explained and questions of clarification were answered. Practice tapes were coded, followed by a discussion of individual ratings. Misinterpretations of the code were corrected.

Each of the observers independently rated all 78 tapes, which were assigned in random order. Each observer listened, in isolation, to every tape twice and then filled out the rating form. The rating form permitted the observer to indicate which descriptions of interaction behavior occurred at least once during the discussion. Thirty-one behaviors were rated for the mother, and again for the adolescent. Positive behaviors included rephrasing the other person's opinion

(reflection), making suggestions, good-natured joking, praising or complimenting, asking what the other person would like, compromising, and showing willingness to listen. Negative behaviors included negative exaggeration, yelling, ridiculing, repeating one's opinion with insistence, threatening, name-calling, interrupting with criticism, giving short uncooperative responses, asking accusative questions, making demands, arguing over small points, talking very little, talking very much, disregarding the other person's points, mind-reading, quick negative judgments of other's suggestions, abrupt change of subject, exhibiting anger, sarcasm, overly acquiescent, ignoring the other with silence, personal attack, and criticism. The observers also provided global ratings of the overall level of insult during the interaction, friendliness, how effective the dyad was at problem solving, and how completely the problem was resolved. The ratings yielded eight scores: positive behavior (adolescent), negative behavior (adolescent), positive behavior (mother), negative behavior (mother), insult (dyad), friendliness (dyad), resolution of problem (dyad), and problem solving effectiveness (dyad). Scores for each category were computed by averaging all four raters' scores. Reliability was estimated separately for each category. Since the score to be analyzed was actually the mean of the four raters, the reliability of the mean score (as opposed to any one rater's score) was of primary relevance. Increasing the number of subobservations, from one to four in this case, increased the reliability of the mean score. The Spearman-Brown formula provides a method for estimating reliability for the four-subobservation score based on reliability for the one-observation case. Reliability for the one-observation case was represented by the average interrater correlation for all possible pairs of raters. Reliability coefficients for the eight observation categories ranged from .82 to .93 (Prinz and Kent, 1978).

Procedure

During a 90-min session, mother and ado-

lescent independently completed the CBQ, IC, PCM, DMQ and the tape-recorded discussion. They were told that their responses would not be revealed to the other family member. During the week following the session, the DHR was completed at home.

RESULTS

For multivariate discriminant analysis and cross validation, the families in each group were randomly divided into two samples. Stepwise discriminant analysis (Cooley and Lohnes, 1971) was performed on Sample 1 using the 26 variables from the six measurement sources to obtain maximum discrimination between distressed and nondistressed dyads. The stepwise procedure was stopped when the *F*-to-enter criterion of 1.25 was no longer satisfied. The variable selection criterion was based on the smallest Wilks' Lambda (equivalent to the largest overall multivariate *F*). Eight variables remained in the resultant discriminant equation. Based on the discriminant weights from analysis of Sample 1, 100% of the families in Sample 1 were classified correctly (Table 1). To cross validate, the weights from the stepwise discriminant analysis of Sample 1 were applied to Sample 2. As seen in Table 1, 84.6% of the Sample 2 families

were correctly classified. Of the six misclassifications, five were distressed families.

In order to report discriminant weights based on a larger and hence more stable data set, the two samples were pooled and stepwise discriminant analysis using the same stopping and selection criteria was repeated on the full sample. The standardized and unstandardized weights are found in Table 2. The mothers' Conflict Behavior Questionnaire scores emerged as the most heavily weighted variables; friendliness and negative adolescent behavior, from the rated discussions, were also added to the equation. Two variables, insult (dyadic discussion) and adolescent dissatisfaction with decision-making, were probably functioning as suppressors (see Tables 2 and 3). Based on the full sample stepwise discriminant analysis, 97.4% of the 78 families were correctly classified; two distressed families were misclassified.

Table 1
Classification Prediction Efficiency

Group	Number of Correct Families	Classification %
Classification for Sample 1 Based on Weights from Sample 1		
Distressed Families	19	100.0
Nondistressed Families	20	100.0
All Families	39	100.0
Cross Validation for Sample 2 Based on Weights from Sample 1		
Distressed Families	19	73.7
Nondistressed Family	20	95.0
All Families	39	84.6

Table 2
Full-Sample Discriminant Function

Variable	Standardized Weight	Unstandardized Weight
Appraisal of Adolescent (Mother, Conflict Behavior Questionnaire)	-.58820	-.04655
Appraisal of Dyad (Mother, Conflict Behavior Questionnaire)	-.22350	-.03913
Friendliness (Dyadic, Discussion)	.20351	.23652
Negative Behavior (Adolescent, Discussion)	-.18167	-1.59006
Insult (Dyadic, Discussion)	.16820	.38532
Dissatisfaction with Decision-Making (Adolescent, Decision-making Questionnaire)	.16746	.26892
Intensity-by-Frequency of Issues (Mother, Issues Checklist)	-.15595	-.05909
Quantity of Issues (Adolescent, Issues Checklist)	-.09804	-.01191
		Constant = 1.46009
Centroid for Distressed Group =		-.92224
Centroid for Nondistressed Group =		.84942

In a subsequent analysis, comparative discrimination of the 26 variables was evaluated without respect to redundancy. Means, standard deviations, and univariate F -ratios are reported in Table 3. The mothers' responses on the CBQ provided the strongest discriminators (appraisal of adolescent, $F = 165.7$, $p < .001$; appraisal of dyad, $F = 122.5$, $p < .001$). All but one of the rating categories of the tape-recorded discussion discriminated beyond the .001 significance level. Maternal quantity of issues was not a strong discriminator, but both maternal and adolescent intensity of issues discriminated strongly ($p < .001$). Adolescent dissatisfaction with parental control was also a strong discriminator ($p < .001$). Maternal report of control, maternal appraisal of decision-making, and adolescent dissatisfaction with decision-making failed to discriminate significantly distressed from nondistressed dyads.

In order to evaluate the potential bias accruing from the disproportionate number of female adolescents in the distressed group, discriminant analysis was also conducted for a special sex-balanced subsample, which was formed by discarding randomly selected excess families with female adolescents. All families were correctly classified, indicating highly comparable discrimination. Although discriminant analysis of the full and sex-balanced samples both yielded high classifiability rates, the possibility still remained that the extra females in the distressed group could effect a peculiar pattern of discrimination among the 26 variables. Consequently, the percentage of variance accounted for by each variable in discriminating distressed and nondistressed dyads was computed for the full and sex-balanced samples. The two percentage of variance profiles were highly similar, with a Pearson product-moment correlation of .97. Finally, t tests were conducted to assess sex differences for each of the 26 variables. Within the distressed group, only one of the 26 variables yielded a t significant beyond the .05 level, which is fewer than expected by chance. Within the nondistressed group, four of the 26 variables

produced significant sex differences. In summary, sex differences among the variables were weak, and did not account for the obtained discrimination between distressed and nondistressed dyads.

DISCUSSION

The assessment measures, collectively, yielded excellent discrimination between distressed and nondistressed mother-adolescent dyads. In the first sample, 100% of the dyads were correctly classified based on a stepwise-determined discriminant function equation of eight variables. Cross validation was lower but highly adequate at 84.6%. Looking at the measures individually, two main data sources emerged as strong discriminators: the Conflict Behavior Questionnaire, which was composed of descriptive statements about interaction style, and the ratings of tape-recorded discussions (positive and negative behavior categories, insult, friendliness, and problem solving effectiveness).

The results support other findings that parent-adolescent discord is not characteristic of all young adolescents. The nonclinic sample was clearly distinguishable from the clinic sample. This is consistent with Rutter, Graham, Chadwick, and Yule (1976) who found that parent-child alienation was not a common feature at age 14.

Conversely, not all measures purported to measure conflict will necessarily distinguish clinic and nonclinic families. Although reported *intensity* of discussions associated with specific issues significantly discriminated the two groups, the number of discussed issues reported by the mother did not. The number of issues reported by the adolescents, while significant, was one of the weakest discriminators. This tends to corroborate the conclusions of Rutter *et al.* (1976), who found that although only a minority of adolescents were having major problems with their parents, most reported disagreements over everyday topics such as hairstyles and clothing. In normative as well as clinic families, there appear to be issues or topics about which par-

Table 3
Variables Ranked by Univariate F-ratios

Variable	Source	Instrument	Distressed Dyads		Nondistressed Dyads		Univariate F-ratio
			Mean	SD	Mean	SD	
			Appraisal of Adolescent	Mother	CBQ ^d	28.89	
Appraisal of Dyad	Mother	CBQ ^d	11.29	4.72	2.26	1.69	122.5 ^c
Appraisal of Dyad	Adolescent	CBQ ^d	9.55	5.55	3.19	2.64	39.8 ^c
Friendliness	Dyad	Discussion	1.24	.78	2.24	.62	37.7 ^c
Intensity of Issues	Mother	IC ^e	2.60	.69	1.74	.49	37.6 ^c
Appraisal of Mother	Adolescent	CBQ ^d	19.88	12.60	6.18	6.77	34.0 ^c
Negative Behavior	Adolescent	Discussion	.18	.13	.06	.05	24.7 ^c
Argument Ratio	Mother	DHR ^f	1.84	.52	1.36	.29	24.5 ^c
Positive Behavior	Adolescent	Discussion	.20	.11	.32	.10	23.4 ^c
Intensity of Issues	Adolescent	IC ^e	2.46	.60	1.82	.52	23.0 ^c
Problem-solving Effectiveness	Dyad	Discussion	1.74	1.04	2.68	.83	18.2 ^c
Positive Behavior	Mother	Discussion	.37	.14	.50	.13	17.8 ^c
Argument Ratio	Adolescent	DHR ^f	1.93	.57	1.50	.41	14.4 ^c
Dissatisfaction with Parental Control	Adolescent	PC ^g	1.20	.82	.55	.73	12.7 ^c
Resolution of Problem	Dyad	Discussion	1.74	1.28	2.64	1.00	11.2 ^c
Insult	Dyad	Discussion	1.44	.55	1.12	.20	11.0 ^b
Daily Conflict	Mother	DHR ^f	.41	.08	.35	.09	8.9 ^b
Negative Behavior	Mother	Discussion	.11	.09	.06	.05	8.7 ^b
Quantity of Issues	Adolescent	IC ^e	24.31	8.41	19.71	7.50	6.1 ^a
Daily Conflict	Adolescent	DHR ^f	.45	.14	.37	.11	6.0 ^a
Intensity-by-Frequency of Issues	Adolescent	IC ^e	1.45	2.44	.59	.88	4.1 ^a
Intensity-by-Frequency of Issues	Mother	IC ^e	1.72	3.54	.60	1.19	3.4
Report of Control	Mother	PC ^g	3.05	.50	2.84	.45	3.4
Appraisal of Decision-Making	Mother	DMQ ^h	2.89	.80	2.99	.44	.4
Dissatisfaction with Decision Making	Adolescent	DMQ ^h	.66	.74	.73	.50	.2
Quantity of Issues	Mother	IC ^e	19.71	7.66	19.29	7.75	.1

^ap < .05.

^bp < .01.

^cp < .001.

^dCBQ = Conflict Behavior Questionnaire.

^eIC = Issues Checklist.

^fDHR = Daily Home Report.

^gPC = Parental Control Measure.

^hDMQ = Decision-making Questionnaire.

ent and adolescent hold and express differing opinions. In this study, the way those differences were handled more clearly distinguished the two groups of families. It is possible, however, that topics of disagreement reported by the distressed families differed in type from those reported by the nondistressed families, but the possibility was not addressed in this investigation.

Much of the discrimination came from measures that were concerned with the way the two family members talked to one another. Even in an artificial setting, the clinic families exhibited communication styles laden with counterproductive negative affect similar to that which Alexander (1973) encountered in families of delinquent teenagers. The reports by mothers and adolescents about behavioral styles at home converged with the data from the tape-recorded discussions. In contrast, maternal reports of who made decisions and adolescent dissatisfaction with the extent to which decisions were shared did not differentiate the two groups. Thus, samples of how issues were discussed and reports of positive and negative communication behaviors related to conflict situations were more important than the mere occurrence of disagreement or particular family decision-making roles.

The questionnaire measures that produced good discrimination from both mothers and adolescents included the Conflict Behavior Questionnaire and the Issues Checklist. Both assess specific behaviors and particular discussion topics that can be used for treatment planning as well as research purposes. Although the respondents' reports might not have had a one-to-one correspondence with actual behavior, their reports provided a very valuable source of information about the parent-adolescent relationship. There is mounting evidence that parents' reports about recent specific quantifiable events are highly reliable and valid whereas parental reports about past child rearing practices tend to be unstable and distorted (O'Leary and Johnson, 1979, pp. 210-246). In this study, the self-report data, especially the Conflict Be-

havior Questionnaire, produced very respectable reliabilities (coefficient alphas) and higher discriminant validities (univariate *F*-ratios) than the observation data. In brief, parent and adolescent self-reports appear to be both practical and valid means of data collection.

The use of diverse sources of data and multiple measures produces several difficulties in the analysis of outcome data in clinical research. Various multivariate analyses to examine statistically outcome data have been suggested as alternatives to univariate methods (Kaplan and Litrownik, 1977). The present study provides one example of the use of stepwise discriminant analysis in isolating important discriminators between groups defined *a priori* by external criteria. The resultant discriminant function contained eight variables (preserving a sufficiently high subject to variable ratio) that were weighted to minimize redundancy among the variables and maximize discrimination of the groups. For the results to be interpretable, the criterion must be meaningful as well as relevant to the measurements employed. In this case, self-referral for family discord *versus* a good relationship was used as the grouping criterion and met both of these requirements. Other clinical populations could, of course, be examined using the same research strategy, given the definitions of a meaningful *a priori* grouping of subjects.

The present results are potentially useful in outcome research with problem families. The measures of discord employed here can be combined in a linearly weighted sum or discriminant score based on the weights derived from the stepwise procedure. As mentioned previously, the discriminant score is more stable than any of the individual variables, yet it represents a sampling of measurement domains. In an outcome study, the investigator can evaluate change on the discriminant score alone, and thus avoid the liability inherent in the analysis of a series of less reliable dependent measures taken one at a time (see Foster, Note 1, for an example). More accurate posttreatment com-

parisons with a nondistressed population are made possible by the reduced overlap of distributions produced by discriminant analysis. New methodologies such as this warrant further extensive investigation, both in assessment and clinical outcome research.

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